G41MD Series

Motherboard

User's Manual

FOXCONN®

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Version:

User's Manual V1.0 for G41MD Series motherboard.
P/N: 3A222NF00-000-G

Symbol description:

Caution: refers to important information that can help you to use motherboard better, and tells you how to avoid problems.

Warning: indicating a potential risk of hardware damage or physical injury may exist.

WEEE:

The use of this symbol indicates that this product may not be treated as household waste. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. For more detailed information about recycling of this product, please contact your local city office, your household waste disposal service or the shop where you purchased this product.

More information:

If you want more information about our products, please visit Foxconn's website: http://www.foxconnchannel.com

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All images are for reference only, please refer to the physical motherboard for specific features.

Declaration of conformity

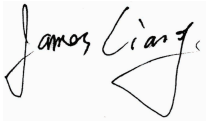
CE

HON HAI PRECISION INDUSTRY COMPANY LTD
66 , CHUNG SHAN RD., TU-CHENG INDUSTRIAL DISTRICT,
TAIPEI HSIEN, TAIWAN, R.O.C.

declares that the product
Motherboard G41MD

is in conformity with
(reference to the specification under which conformity is declared in accordance with 89/336 EEC-EMC Directive)

- EN 55022: 1998/A2: 2003 Limits and methods of measurements of radio disturbance characteristics of information technology equipment
- EN 61000-3-2/:2000 Electromagnetic compatibility (EMC)
  Part 3: Limits
  Section 2: Limits for harmonic current emissions (equipment input current <= 16A per phase)
- EN 61000-3-3/A1:2001 Electromagnetic compatibility (EMC)
  Part 3: Limits
  Section 2: Limits of voltage fluctuations and flicker in low voltage supply systems for equipment with rated current <= 16A
- EN 55024/A2:2003 Information technology equipment-Immunity characteristics limits and methods of measurement

Signature : 

Place / Date : TAIPEI/2010

Printed Name : James Liang

Declaration of conformity

Trade Name:	FOXCONN
Model Name:	G41MD
Responsible Party:	PCE Industry Inc.
Address:	458 E. Lambert Rd. Fullerton, CA 92835
Telephone:	714-738-8868
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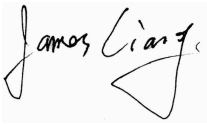
Equipment Classification:	FCC Class B Subassembly
Type of Product:	Motherboard
Manufacturer:	HON HAI PRECISION INDUSTRY COMPANY LTD
Address:	66 , CHUNG SHAN RD., TU-CHENG INDUSTRIAL DISTRICT, TAIPEI HSIEN, TAIWAN, R.O.C.

Supplementary Information:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions : (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Tested to comply with FCC standards.

Signature : 

Date : 2010

Installation Precautions

- Electrostatic discharge (ESD) is the sudden and momentary electric current that flows between two objects at different electrical potentials. Normally it comes out as a spark which will quickly damage your electronic equipment. Please wear an electrostatic discharge (ESD) wrist strap when handling components such as a motherboard, CPU or memory.
- Ensure that the DC power supply is turned off before installing or removing CPU, memory, expansion cards or other peripherals. It is recommended to unplug the AC power cord from the power supply outlet. Failure to unplug the power supply cord may result in serious damage to your system.

Please carefully read the following procedures to install your computer :

- It is suggested to select high-quality, certified fans in order to avoid damage to the motherboard and CPU due to high temperature. Never turn on the computer if the CPU fan is not properly installed.
- We cannot guarantee that your system can operate normally when your CPU is overclocked. Normal operation depends on the overclocking capacity of your device.
- If there is any, when connecting USB, audio, 1394a, RS232 COM, IrDA or S/PDIF cables to the internal connectors on the motherboard, make sure their pinouts are matching with the connectors on the motherboard. Incorrect connections might damage the motherboard.
- When handling the motherboard, avoid touching any metal leads or connectors.
- If there is a PCI Express x16 graphics card installed in your system, we recommend using a 24-pin ATX power supply to get the best performance.
- Before turning on the power, please make sure the power supply AC input voltage setting has been configured to the local standard.
- To prevent damage to the motherboard, do not allow screws to come in contact with the motherboard circuit or its components. Also, make sure there are no leftover screws or metal components placed on the motherboard or within the computer casing.
- If you are uncertain about any installation steps or have a problem related to the use of the product, please consult a certified computer technician.

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Technical Support :

Support

Website :
http://www.foxconnchannel.com

Support Website :
http://www.foxconnsupport.com

Worldwide online contact Support :
http://www.foxconnsupport.com/inquiry.aspx

CPU Support List :

http://www.foxconnsupport.com/cpusupportlist.aspx

Memory, VGA Compatibility List :
http://www.foxconnsupport.com/complist.aspx

Thank you for buying Foxconn G41MD Series motherboard. Foxconn products are engineered to maximize computing power, providing only what you need for break-through performance.

With advanced overclocking capability and a range of connectivity features for today multi-media computing requirements, G41MD enables you to unleash more power from your computer.

This chapter includes the following information:

- Product Specifications
- Layout
- Back Panel Connectors

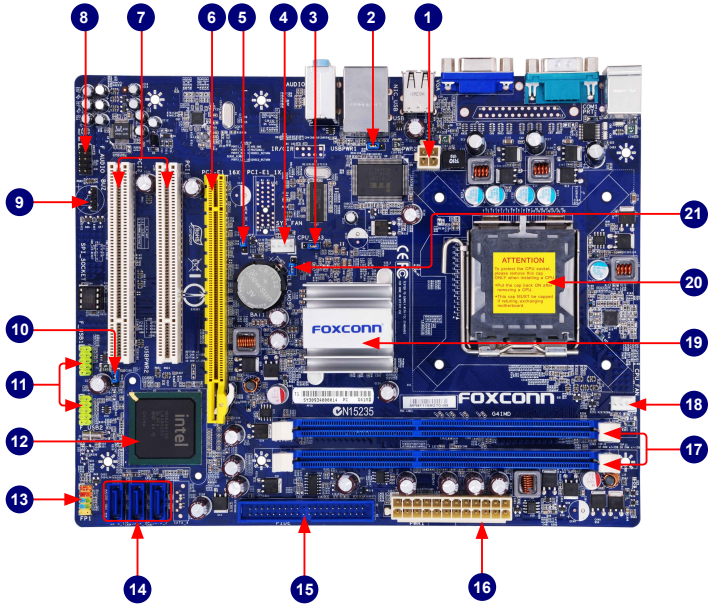
1-1 Product Specifications

CPU	Support LGA 775 socket Intel® CPU, Max processor power up to 95w For the latest CPU information, please visit: http://www.foxconnchannel.com
Front Side Bus	1333/1066/800/533MHz FSB
Chipset	North Bridge: Intel® G41 South Bridge: Intel® ICH7
Memory	2 x 240-pin DDR3 DIMM sockets Support up to 8GB of system memory Dual channel DDR3 1333(oc*)/1066/800 MHz architecture(*:Overclocking)
Expansion Slots	1 x PCI Express x16 slot 1 x PCI Express x1 slot (optional) 2 x PCI slots
VGA	Intel® GMA4500 Supports DX10 and Intel® Clear Video Technology
Storage	ICH7 chipset: - 3 x SATAII connectors 300MB/s data transfer rate - 1 x IDE connector
LAN	Atheros 8151-BL1A Gigabit LAN chip
Audio	Realtek ALC662 audio chip: - High Definition Audio - 2/4/5.1-channel - Support Jack Sensing function
USB	Support hot plug Supports up to 8 x USB 2.0 ports (4 rear panel ports, 2 onboard USB headers supporting 4 extra ports) Support USB 2.0 protocol up to 480Mb/s
Internal Connectors	1 x 24-pin ATX main power connector 1 x 4-pin ATX 12V power connector 1 x CPU fan header (4-pin) 1 x System fan headers (4-pin) 1 x Front Audio connector 1 x Speaker connector 2 x USB 2.0 connectors (supporting 4 x USB devices) 1 x Front Panel connector 3 x SATA connectors

(Continued on the next page)

Back Panel Connectors	1 x PS/2 Keyboard port 1 x PS/2 Mouse port 1 x Serial port 1 x Parallel port (optional) 1 x VGA port 4 x USB 2.0 ports 1 x RJ-45 LAN port 6-channel Audio Ports
Hardware Monitor	System voltage detection CPU/System temperature detection CPU/System fan speed detection CPU/System overheating shutdown CPU/System fan speed control
PCI Express x16	Support 8GB/s (16GB/s concurrent) bandwidth Low power consumption and power management features
Green Function	Support ACPI (Advanced Configuration and Power Interface) Support S0 (normal), S1 (power on suspend), S3 (suspend to RAM), S4 (suspend to disk), and S5 (soft - off) Support EuP function
Bundled Software	FOX ONE FOX LiveUpdate FOX LOGO FOX DMI
Operating System	Support for Microsoft® Windows® Vista/XP/Win7
Form Factor	Micro ATX Form Factor, 9.6 inches x 7.6 inches (24.4cm x 19.3cm)

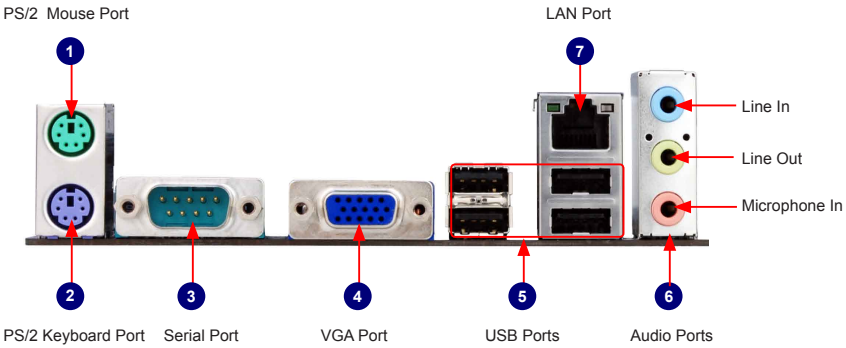
1-2 Layout



1. 4-pin ATX 12V Power Connector
2. USBPWR1 Jumper
3. CPU_533 Jumper
4. SYS_FAN Header
5. MEM_OC_1333 Jumper
6. PCI Express x16 Slot
7. PCI Slots
8. Front Audio Connector
9. Speaker Connector
10. USBPWR2 Jumper
11. Front USB Connectors
12. South Bridge: Intel ® ICH7
13. Front Panel Connector
14. SATA Connectors
15. IDE Connector
16. 24-pin ATX Power Connector
17. DDR3 DIMM Slots
18. CPU_FAN Header
19. North Bridge: Intel ® G41
20. LGA 775 CPU Socket
21. Clear CMOS Jumper

Note : The above motherboard layout is for reference only, please refer to the physical motherboard for detail.

1-3 Back Panel Connectors



1. PS/2 Mouse Port

Use the upper port (green) to connect a PS/2 mouse.

2. PS/2 Keyboard Port

Use the lower port (purple) to connect a PS/2 keyboard.

3. Serial Port

This is output of RS232 COM1 port.

4. VGA Port

To connect with external display devices, such as monitor or LCD display.

5. USB Ports

The USB port supports the USB 2.0/1.1 specification. Use this port for USB devices such as an USB keyboard/mouse, USB printer, USB flash drive and etc.

6. Audio Ports

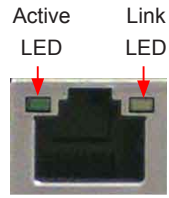
For the definition of each audio port, please refer to the table below :

Port	2-channel	4-channel	5.1-channel
Blue	Line In	Rear Speaker Out*	Rear Speaker Out*
Green	Line Out	Front Speaker Out	Front Speaker Out
Pink	Microphone In	Microphone In	Center/Subwoofer Out*

7. RJ-45 LAN Port

The Ethernet LAN port provides Internet connection at up to 10/100/1000Mb/s data rate.

LAN Type	Left: Active		Right: Link	
	Status	Description	Status	Description
1000M	Off	No Link	Off	No Link
	Green Blinking	Data Activity	Off	10 Mb/s Connection
			Green	100 Mb/s Connection
			Orange	1000 Mb/s Connection



This chapter introduces the hardware installation process, including the installation of the CPU, memory, power supply, slots, pin headers and the mounting of jumpers. Caution should be exercised during the installation of these modules. Please refer to the motherboard layout prior to any installation and read the contents in this chapter carefully.

This chapter includes the following information :

- Install the CPU and CPU Cooler
- Install the Memory
- Install an Expansion Card
- Install other Internal Connectors
- Jumpers

Please visit the following website for more supporting information about your motherboard.
CPU Support List:

http://www.foxconnsupport.com/cpusupportlist.aspx

Memory, VGA Compatibility List:

http://www.foxconnsupport.com/complist.aspx

2-1 Install the CPU and CPU Cooler

CAUTION

Read the following guidelines before you begin to install the CPU :

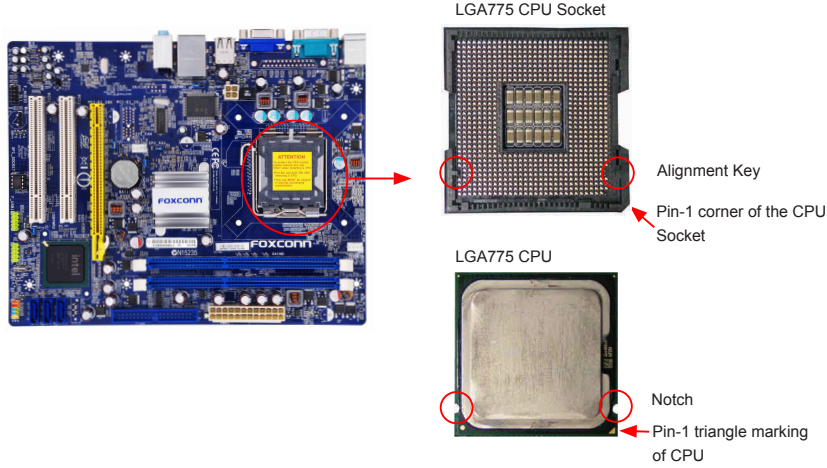
- Make sure that the motherboard supports the CPU.
- Always turn off the computer and unplug the power cord from the power supply before installing the CPU to prevent hardware damage.
- Locate the pin one of the CPU. The CPU cannot be inserted if oriented incorrectly. (Or you may locate the notches on both sides of the CPU and alignment keys on the CPU socket.)
- Apply an even and thin layer of thermal grease on the surface of the CPU.
- Do not turn on the computer if the CPU cooler is not installed, otherwise overheating and damage of the CPU may occur.
- Set the CPU host frequency in accordance with the CPU specifications. It is not recommended that the system bus frequency be set beyond hardware specifications since it does not meet the standard requirements for the peripherals. If you wish to set the frequency beyond the standard specifications, please do so according to your hardware specifications including the CPU, graphics card, memory, hard drive, etc.

Hyper-Threading Technology System Requirements:
(Go to Intel's website for more information about the Hyper-Threading Technology)

- An Intel® CPU that supports HT Technology
- A chipset that supports HT Technology
- An operating system that is optimized for HT Technology
- A BIOS that supports HT Technology and has it enabled

Install the CPU

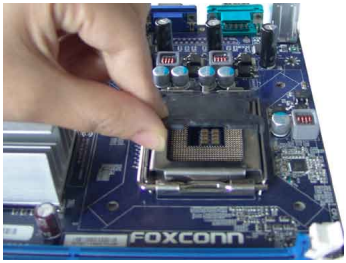
Locate the alignment keys on the motherboard CPU socket and the notches on the CPU.



Follow the steps to install the CPU onto the CPU socket :

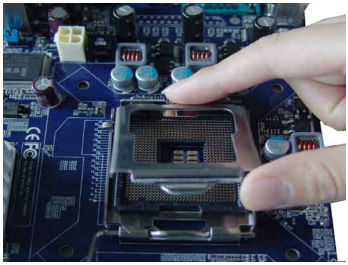
CAUTION

Before installing the CPU, make sure to turn off the computer and unplug the power cord from the power outlet to prevent damage to the CPU.



1. Remove protective socket cover.

2. Release the CPU socket lever.



3. Lift the metal cover on the CPU socket.

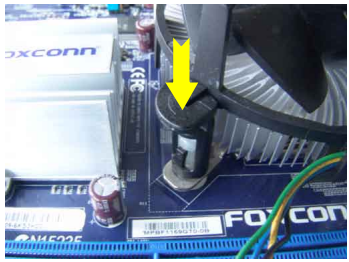
4. Check pin one marking (triangle) with the pin one corner of the CPU socket, align the CPU notches with the socket alignment keys and gently put the CPU onto the socket.

5. When CPU is properly seated, replace the metal cover and push the CPU socket lever back to its locked position.

Install the CPU Cooler

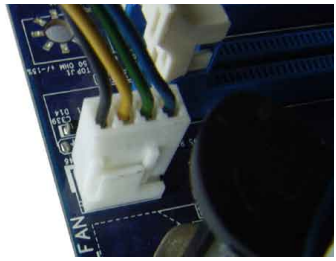
Follow the steps below to correctly install the CPU cooler on the motherboard. (The following procedures use Foxconn cooler as the example.)

1. Apply and spread an even thermal grease on the surface of CPU.

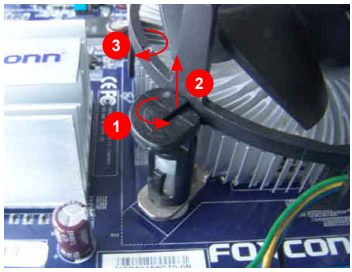


2. Place the four bolts of the CPU cooler to the holes of the motherboard, push them straight down from the top, and the bolts will be fastened on the motherboard. That's it.

3. Check the solder side of the motherboard, the push pin should be fixed as depicted in the picture.



4. Attach the 4-wire CPU cooler connector to the CPU FAN header on the motherboard .



Release bolts of CPU cooler from motherboard :

1. Turning the push pin (bolt) along with the direction of arrow (counterclockwise).
2. Pull the push pin straight up.
3. Turning push pin clockwise to its default position.

CAUTION

Use extreme care when removing the CPU cooler because the thermal grease may adhere to the CPU. Inadequately removing the CPU cooler may damage the CPU.

2-2 Install the Memory

Read the following guidelines before you begin to install the memory :

- Make sure that the motherboard supports the memory. It is recommended that memory of the same capacity, brand, speed, and chips be used.
- Always turn off the computer and unplug the power cord from the power outlet before installing the memory to prevent hardware damage.
- Memory modules have a foolproof design. A memory module can be installed in only one direction. If you are unable to insert the memory, switch the direction.

Dual Channel Memory Configuration

This motherboard provides two DDR3 memory sockets and supports Dual Channel Technology. When memory is installed, the BIOS will automatically check the memory in your system.

Two DDR3 memory sockets are divided into two channels :

Channel 0 : DIMM1
Channel 1 : DIMM2

The combinations of DIMM modules are :

	DIMM1	DIMM2
Single Channel	DS/SS	-
Single Channel	-	DS/SS
Dual Channel	DS/SS	DS/SS

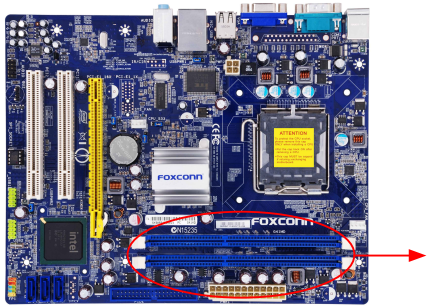
(DS : Double Side, SS : Single Side, - : No Memory)

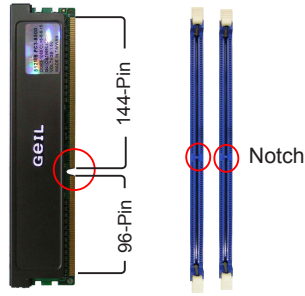
It is recommended that memory of the same capacity, brand, speed, and chips be used and please select dual channel first to achieve optimum performance.

Installing a Memory

CAUTION

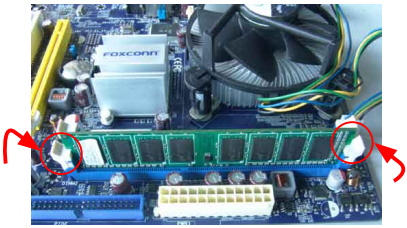
Before installing a memory module, make sure to turn off the computer and unplug the power cord from the power outlet to prevent damage to the memory module. Be sure to install DDR3 DIMMs on this motherboard.





If you take a look at front side of memory module, it has asymmetric pin counts on both sides separated by a notch in the middle, so it can only fit in one direction. Follow the steps below to correctly install your memory modules into the sockets.

Step 1:
Spread the clips at both ends of the memory socket. Place the memory module onto the socket, then put your fingers on top edge of the module, and push it down firmly and seat it vertically into the memory socket.

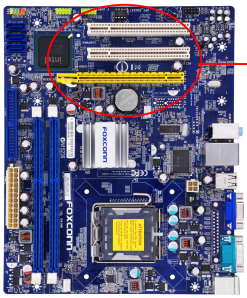


Step 2:
The clips at both ends of the socket will snap into place when the memory module is securely inserted.

2-3 Install an Expansion Card

CAUTION

- Make sure the motherboard supports the expansion card. Carefully read the manual that came with your expansion card.
- Always turn off the computer and unplug the power cord from the power outlet before installing an expansion card to prevent hardware damage.



PCI Express x16

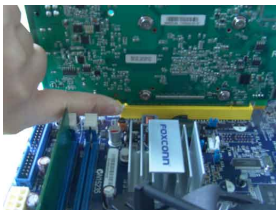
PCI

Follow the steps below to correctly install your expansion card in the expansion slot.

1. Locate an expansion slot that supports your card. Remove the metal slot cover from the chassis back panel.
2. Align the card with the slot, and press down on the card until it is fully seated in the slot.
3. Make sure the metal contacts on the card are completely inserted into the slot.
4. Secure the card's metal bracket to the chassis back panel with a screw.
5. After installing all expansion cards, replace the chassis cover.
6. Turn on your computer. If necessary, go to BIOS Setup to make any required BIOS changes for your expansion card(s).
7. Install the driver provided with the expansion card in your operating system.

Installing and Removing a PCI Express x16 Graphics Card :

• Installing a Graphics Card:
Gently insert the graphics card into the PCI Express x16 slot. Make sure the graphics card is locked by the latch at the end of the PCI Express x16 slot.



• Removing the Card:
Push the latch at the end of the PCI Express x16 slot to release the card and then pull the card straight up from the slot.

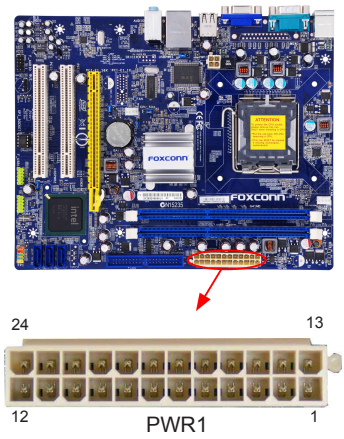
2-4 Install other Internal Connectors

Power Connectors

This motherboard uses an ATX power supply. In order not to damage any device, make sure all the devices have been installed properly before applying the power supply.

24-pin ATX Power Connector : PWR1

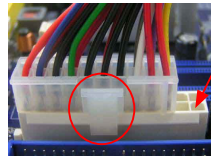
PWR1 is the ATX power supply connector. Make sure that the power supply cable and pins are properly aligned with the connector on the motherboard. Firmly plug the power supply cable into the connector and make sure it is secure.



Pin #	Definition	Pin #	Definition
1	3.3V	13	3.3V
2	3.3V	14	-12V
3	GND	15	GND
4	+5V	16	PS_ON(Soft On/Off)
5	GND	17	GND
6	+5V	18	GND
7	GND	19	GND
8	Power Good	20	NC
9	+5V SB(Stand by +5V)	21	+5V
10	+12V	22	+5V
11	+12V	23	+5V
12	3.3V	24	GND

CAUTION

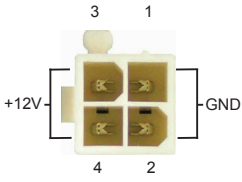
We recommend you using a 24-pin power supply. If you are using a 20-pin power supply, you need to align the ATX power connector according to the picture.



20-Pin Power

4-pin ATX 12 V Power Connector : PWR2

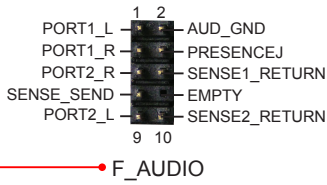
Connect the 4-pin ATX 12V power supply to PWR2 and provides power to the CPU.



Pin #	Definition
1	GND
2	GND
3	+12V
4	+12V

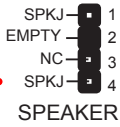
Audio Connector : F_AUDIO

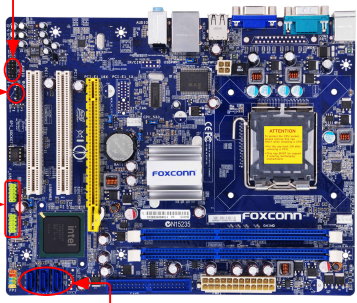
The audio connector supports HD Audio standard. It provides the Front Audio output choice.



Speaker Connector : SPEAKER

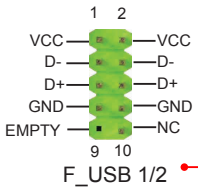
The speaker connector is used to connect speaker of the chassis.





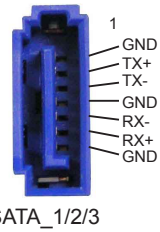
USB Connectors : F_USB1/2

In addition to the four USB ports on the rear panel, this product also provides two 10-pin USB headers on its motherboard. By connecting through USB cables with them, user can quickly expand another four USB ports on the front panel.



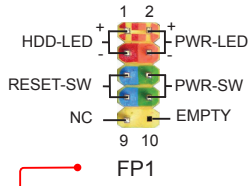
Serial ATA Connectors : SATA_1/2/3

The Serial ATA connector is used to connect with SATA Hard Disk or CD devices which support this feature. The current Serial ATA II interface allows up to 300MB/s data transfer rate.



Front Panel Connector : FP1

This motherboard includes one connector for connecting the front panel switch and LED Indicators.



Hard Disk LED Connector (HDD-LED)

Connect to the chassis front panel IDE indicator LED. It indicates the active status of the hard disks. This 2-pin connector is directional with +/- sign.

Reset Switch (RESET-SW)

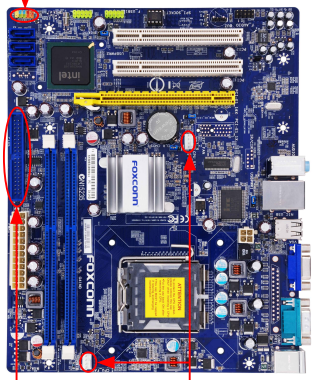
Attach the connector to the Reset switch on the front panel of the case; the system will restart when the switch is pressed.

Power LED Connector (PWR-LED)

Connect to the power LED indicator on the front panel of the chassis. The Power LED indicates the system's status. When the system is in operation (S0 status), the LED is on. When the system gets into sleep mode (S1) , the LED is blinking; When the system is in S3/ S4 sleep state or power off mode (S5), the LED is off. This 2-pin connector is directional with +/- sign.

Power Switch Connector (PWR-SW)

Connect to the power button on the front panel of the chassis. Push this switch allows the system to be turned on and off rather than using the power supply button.

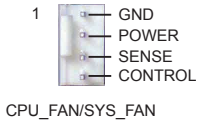


IDE Connector : PIDE

With the provided Ultra DMA IDE ribbon cable, you can connect to any IDE type of hard disk and CD/DVD ROM/RW drive.

Fan Connectors : CPU_FAN, SYS_FAN

There are two main fan headers on this motherboard. The fan speed can be controlled and monitored in "PC Health Status" section of the BIOS Setup. These fans can be automatically turned off after the system enters S3, S4 and S5 sleeping states.



2-5 Jumpers

For some features needed, users can change the jumper settings on this motherboard to modify them. This section explains how to use the various functions of this motherboard by changing the jumper settings. Users should read the following content carefully prior to modifying any jumper setting.

Description of Jumpers

1. For any jumper on this motherboard, pin 1 can be identified by the bold silkscreen next to it. However, in this manual, pin 1 is simply labeled as “1”.
2. The following table explains different types of the jumper settings. "Closed" means placing a jumper cap on the two pins to temporarily short them. The shorting can also be done by touching two pins by a screwdriver for a few seconds, but using jumper cap is recommended. It can prevent hazardous ESD (Electrical Static Discharge) problem.

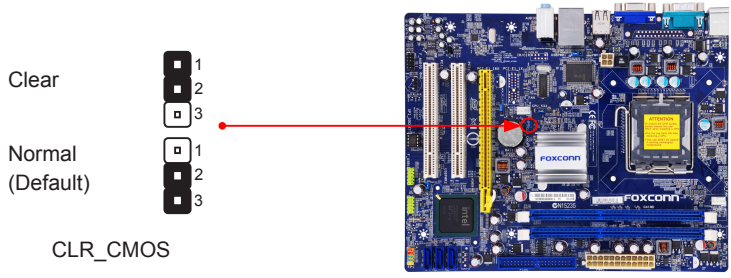
Jumper	Diagram	Definition	Description
1	1	1-2	Set Pin 1 and Pin 2 closed
	1	2-3	Set Pin 2 and Pin 3 closed

Clear CMOS Jumper: CLR_CMOS

The motherboard uses CMOS RAM to store the basic hardware information (such as BIOS data, date, time information, hardware password...etc.). Clear CMOS data is the fast way to go back to factory default when the BIOS settings were mistakenly modified.

The steps to clear CMOS data are :

1. Turn off the computer, unplug the power cord from the power outlet.
2. Remove jumper cap from pins 2-3, put it onto pins 1-2 to short them. This will clear CMOS data.
3. Return the setting to its original with pins 2-3 closed.
4. Plug in the power cord to your computer and turn it on.
5. Go to BIOS Setup to configure new system as described in next chapter.



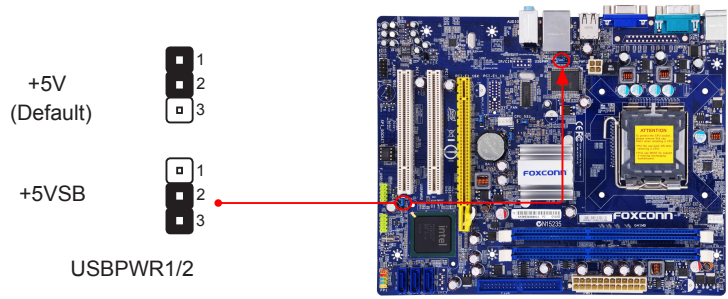
WARNING!

- Disconnect the power cable before adjusting the jumper settings.
- Do not clear the CMOS while the system is turned on.

USB device wake-up Jumper: USBPWR1 / USBPWR2

1. Set the jumper to pins 1-2 (+5V) to wake up the computer from S1 sleep mode using the connected USB devices.
2. Set the jumper to pins 2-3 (+5VSB) to wake up the computer from S3 and S4 sleep modes using the connected USB devices. At the same time, a corresponding setting must be set in BIOS as below:

Set “CMOS Setup” -> “Power Management Setup” -> “USB Wake Up From S3” to “Enabled”.

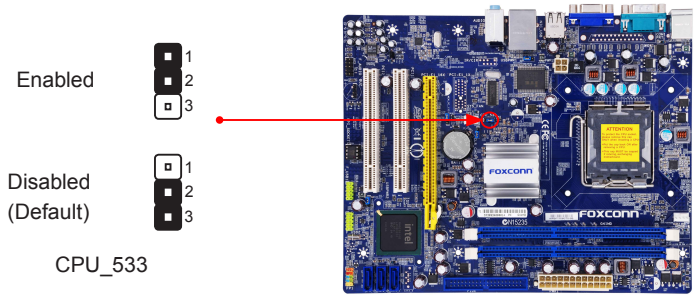


CAUTION

- USBPWR1 is for the internal USB connectors, USBPWR2 is for the rear USB ports.
- The USB device wake-up feature requires a power supply that can provide 500mA on +5VSB lead for each USB port; otherwise, the system will not power up.
- The total current consumed must not exceed the power supply capability (+5VSB) whether under normal condition or in sleep mode.

CPU 533 Jumper: CPU_533

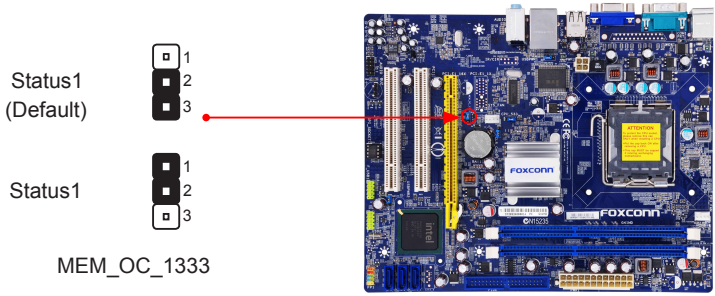
When you use the CPU FSB is 533MHz, set the jumper to pins 1-2. Return the setting to its original with pins 2-3 closed.



Over Memory Frequency Jumper: MEM_OC_1333

When you use the memory which supports 1333/1066, the jumper is used to overclock memory frequency. and make the memory word at 1333MHz.

Set the jumper to pins 2-3 (as Status 1) , memory frequency will be 1066MHz. This is default status. Set the jumper to pins 1-2 (as Status 2), memory frequency will be up to 1333MHz.



CAUTION

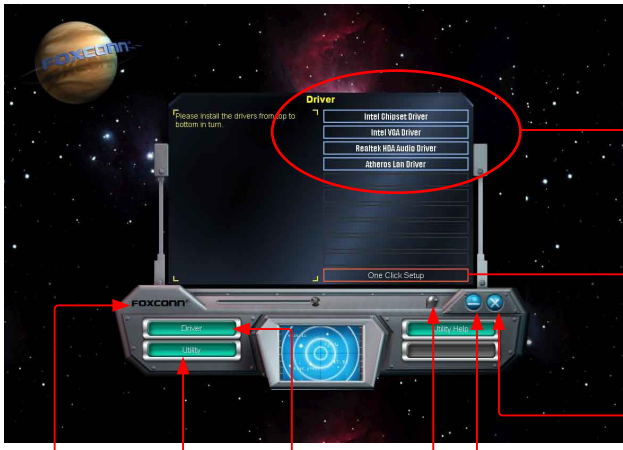
- To overclock memory up to 1333MHz, you also need to use CPU which supports 1333.
- As a result of the memory brand and the chip's difference, we do not guarantee that the 1066MHz memory you used all can work steadily under 1333MHz.

Install driver and utility

This motherboard comes with one Utility CD, after installing the Operating System,You can simply put it into your CD/DVD-ROM drive, and the main menu will be displayed on your PC screen to guide you how to install.

1. Driver

Use these options to install all the drivers for your system. You must click "Intel Chipset Driver" to install it first. After that, you can click "One Click Setup" and then choose the items you want to install, or you can click on each individual driver to install it manually.



Manual Installation Step by Step

Automatic Installation by One Click.

Exit the program

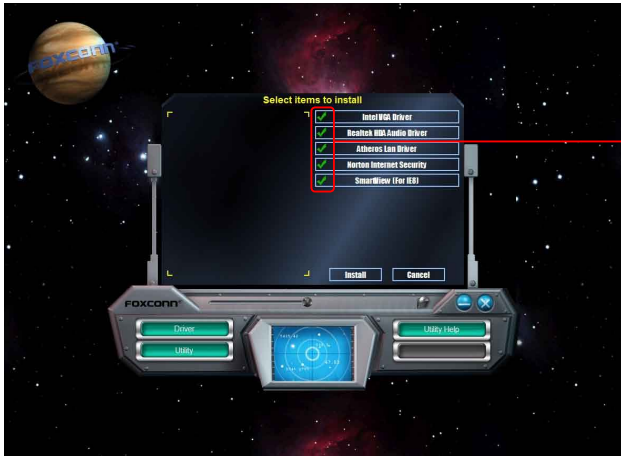
Click to visit Foxconn's website

Select to Install Utilities

Select to Install Drivers

Browse CD

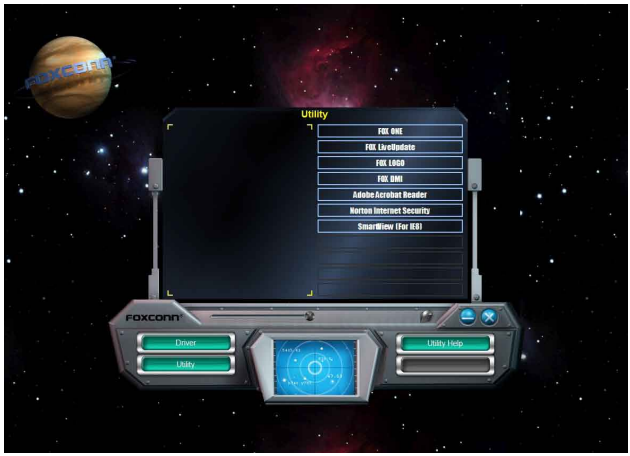
Drop to System Tray



Choose the items you want to Install

2. Utility

Use these options to install additional software programs.



3

This chapter tells how to change system settings through the BIOS Setup menus. Detailed descriptions of the BIOS parameters are also provided.
You have to run the Setup Program when the following cases occur :

1. An error message appears on the screen during the system Power On Self Test (POST) process.
2. You want to change the default CMOS settings.

This chapter includes the following information :

- Enter BIOS Setup
- Main Menu
- System Information
- Advanced BIOS Features
- Fox Central Control Unit
- Advanced Chipset Features
- Integrated Peripherals
- Power Management Setup
- PC Health Status
- BIOS Security Features
- Load Optimal Defaults
- Save & Exit Setup
- Exit Without Saving

Since BIOS could be updated some other times, the BIOS information described in this manual is for reference only. We do not guarantee the content of this manual will remain consistent with the newly released BIOS at any given time in the future. Please visit our website for updated manual if it is available.

Enter BIOS Setup

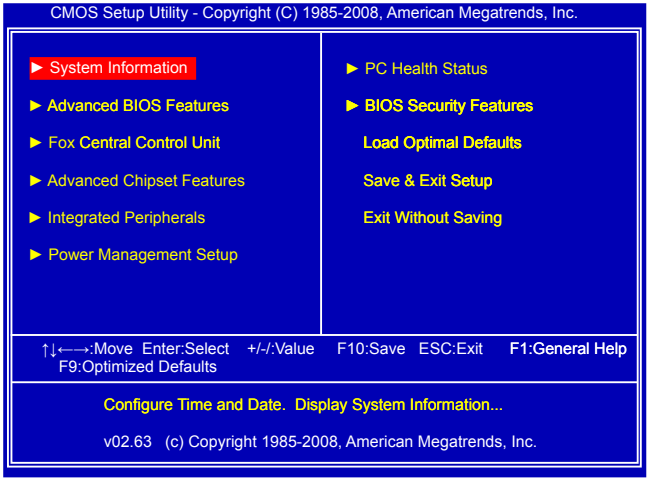
The BIOS is the communication bridge between hardware and software, correctly setting up the BIOS parameters is critical to maintain optimal system performance. Power on the computer, when the message "**Press <Del> to enter Setup, <Esc> to boot menu**" appears at the bottom of the screen, you can press <DEL> key to enter Setup.

CAUTION

We do not suggest that you change the default values in the BIOS Setup, and we shall not be responsible for any damage which resulted from the change you made.

Main Menu

The main menu allows you to select from a list of setup functions together with two exit choices. Use the arrow keys to select a specific item and press <Enter> to go to the sub-menu.


CMOS Setup Utility - Copyright (C) 1985-2008, American Megatrends, Inc.
► System Information
► Advanced BIOS Features
► Fox Central Control Unit
► Advanced Chipset Features
► Integrated Peripherals
► Power Management Setup
► PC Health Status
► BIOS Security Features
Load Optimal Defaults
Save & Exit Setup
Exit Without Saving
↑↓←→:Move Enter:Select +/-/:Value F10:Save ESC:Exit F1:General Help
F9:Optimized Defaults
Configure Time and Date. Display System Information...
v02.63 (c) Copyright 1985-2008, American Megatrends, Inc.

Each item in the main menu is explained below:

► **System Information**

It displays the basic system configuration, such as BIOS version, CPU Name, memory size plus system date, time. They all can be viewed or set up through this menu.

► **Advanced BIOS Features**

The advanced system features can be set up through this menu. There are boot up settings.

► **Fox Central Control Unit**

Some special proprietary features (such as overclocking) can be set up through this menu.

► **Advanced Chipset Features**

The values for the chipset can be changed through this menu, and the system performance can be optimized.

► **Integrated Peripherals**

All onboard peripherals can be set up through this menu. There are IDE devices, Super I/O devices such as Serial I/O and other USB devices... etc.

► **Power Management Setup**

All the items related with Green function features can be setup through this menu.

► **PC Health Status**

This setup enables you to read/change fan speeds, and displays temperatures and voltages of your CPU/System.

► **BIOS Security Features**

The Supervisor/User password can be set up through this menu to prevent unauthorized use of your computer. If you set a password, the system will ask you to key in correct password before boot or access to Setup.

► **Load Optimal Defaults**

The optimal performance settings can be loaded through this menu. However, it may offer better performance in some ways (such as less I/O cards, less memory ...etc.), still, it may cause problem if you have more memory or I/O cards installed. It means, if your system loading is heavy, set to optimal default may sometimes come out an unstable system. What you need now is to adjust BIOS setting one by one, trial and error, to find out the best setting for your current system.

► **Save & Exit Setup**

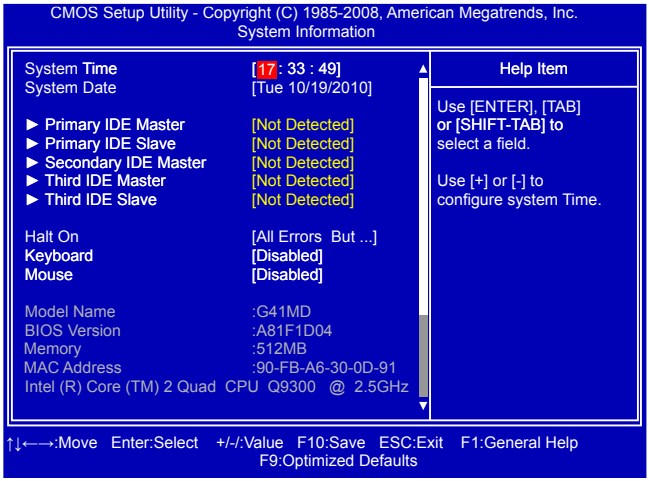
Save setting values to CMOS and exit.

► **Exit Without Saving**

Do not change anything and exit the setup.

System Information

This sub-menu is used to set up the standard BIOS features, such as the date, time, floppy drive and so on. Use the arrow up/down keys to select an item, then use the <+> or <-> keys to change the setting.


CMOS Setup Utility - Copyright (C) 1985-2008, American Megatrends, Inc.
System Information
System Time [17 : 33 : 49]
System Date [Tue 10/19/2010]
► Primary IDE Master [Not Detected]
► Primary IDE Slave [Not Detected]
► Secondary IDE Master [Not Detected]
► Third IDE Master [Not Detected]
► Third IDE Slave [Not Detected]
Halt On [All Errors But ...]
Keyboard [Disabled]
Mouse [Disabled]
Model Name :G41MD
BIOS Version :A81F1D04
Memory :512MB
MAC Address :90-FB-A6-30-0D-91
Intel (R) Core (TM) 2 Quad CPU Q9300 @ 2.5GHz
Help Item
Use [ENTER], [TAB] or [SHIFT-TAB] to select a field.
Use [+] or [-] to configure system Time.
↑↓←→:Move Enter:Select +/-/:Value F10:Save ESC:Exit F1:General Help
F9:Optimized Defaults

► **System Time**

This item allows you to configure the desired time. Use [ENTER], [TAB] or [SHIFT-TAB] to select a field. Use [+] or [-] to input the value.

The three fields of the setting are <hour> : <minute> : <second> respectively.

► **System Date**

<weekday><month><date> <year> format.

Day—weekday from Sun. to Sat., this message is automatically displayed by BIOS (Read Only).

Month—month from 1 to 12.

Date—date from 1 to 31.

Year—year, set up by users.

Use [ENTER], [TAB] or [SHIFT-TAB] to select a field. Use [+] or [-] to input the value.

► **Primary/Secondary/Third IDE Master/Slave**

While entering setup, BIOS automatically detects the presence of IDE devices. This item displays the drive information of IDE devices.

► **Halt On**

This category determines whether or not the computer will stop if an error is detected during powering up.

[All Errors] : All errors can result in system halt.

[All Errors But...] : All errors but keyboard or mouse or floppy can result in system halt. The halt condition can be enabled/disabled in the next three settings.

► **Keyboard**

The system boot will not stop for a keyboard error if you enabled this item.

► **Mouse**

The system boot will not stop for a mouse error if you enabled this item.

► **Model Name**

Model name of this product.

► **BIOS Version**

It displays the current BIOS version. User can check this information and discuss with the field service people if a BIOS upgrade is needed.

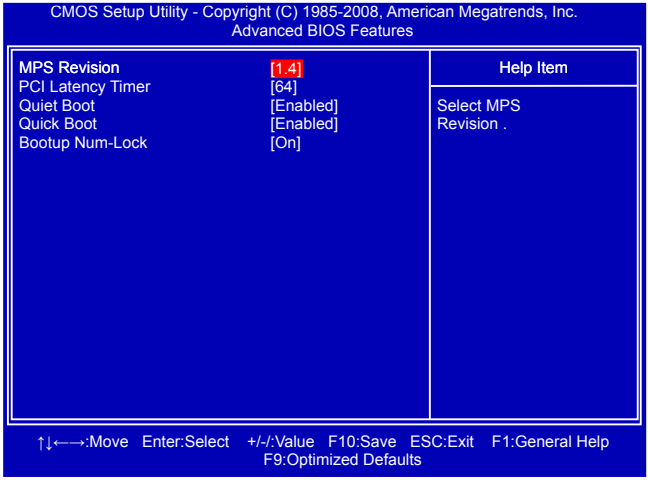
► **Memory**

This item shows the information of the system memory, determined by POST(Power On Self Test) of the BIOS.

► **MAC Address**

This item shows the onboard LAN MAC address.

Advanced BIOS Features


CMOS Setup Utility - Copyright (C) 1985-2008, American Megatrends, Inc.
Advanced BIOS Features
MPS Revision [1.4]
PCI Latency Timer [64]
Quiet Boot [Enabled]
Quick Boot [Enabled]
Bootup Num-Lock [On]
Help Item
Select MPS Revision .
↑↓←→:Move Enter:Select +/-/:Value F10:Save ESC:Exit F1:General Help
F9:Optimized Defaults

► MPS Revision

This feature is only applicable to multiprocessor motherboards as it specifies the version of the MPS that the motherboard will use. The MPS is a specification by which PC manufacturers design and build CPU architecture systems with two or more processors. MPS 1.1 was the original specification. MPS version 1.4 adds extended configuration tables for improved support of multiple PCI bus configurations and greater expandability in the future. In addition, MPS 1.4 introduces support for a secondary PCI bus without requiring a PCI bridge. If your operating system comes with support for MPS 1.4, you should keep the setting as the default 1.4. You also need to enable MPS 1.4 support if you need to make use of the secondary PCI bus on a motherboard that doesn't come with a PCI bridge. You should only leave it as 1.1 only if you are running an older operating system that only supports MPS 1.1.

► PCI Latency Timer

This item is used to set the PCI latency timer. The value is in unit of PCI cycle for PCI device latency timer register. Setting values are 32, 64, 96, 128, 160, 192, 224, 248.

This feature controls how long each PCI device can hold the bus before another takes over. The larger the value, the longer the PCI device can retain control of the bus. Low values for the PCI Latency Timer will reduce the effective PCI bandwidth while higher values means every PCI device will have to wait longer before they can get access to the bus, but when they do get access, they can conduct their transactions for a longer time. Normally, a default value of 64 cycles is set. Some PCI devices may not agree with longer latency times so if you start facing problems like stuttering sound or a less responsive system, reduce the latency. Higher values will actually reduce performance as too much time may be allocated to each PCI device

to the disadvantage of other devices on the bus.

► Quiet Boot

This item is used to enable/disable the quiet boot.

[Disabled] : Displays the normal POST messages.

[Enabled] : Displays OEM customer logo instead of POST messages.

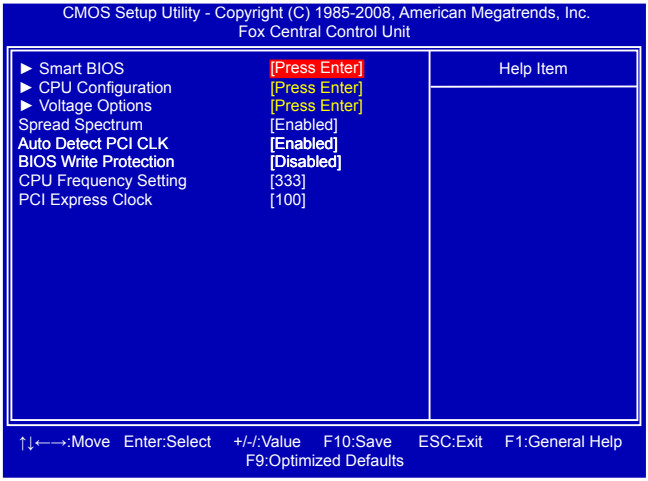
► **Quick Boot**

While Enabled, this option allows BIOS to skip certain tests while booting, this will shorten the time needed to boot the system.

► **Bootup Num-Lock**

This item defines if the keyboard Num Lock key is active when your system is started. The available settings are: On (default) and Off.

Fox Central Control Unit


CMOS Setup Utility - Copyright (C) 1985-2008, American Megatrends, Inc.
Fox Central Control Unit
► Smart BIOS [Press Enter]
► CPU Configuration [Press Enter]
► Voltage Options [Press Enter]
Spread Spectrum [Enabled]
Auto Detect PCI CLK [Enabled]
BIOS Write Protection [Disabled]
CPU Frequency Setting [333]
PCI Express Clock [100]
Help Item
↑↓←→:Move Enter:Select +/-/:Value F10:Save ESC:Exit F1:General Help
F9:Optimized Defaults

► Smart BIOS / CPU Configuration / Voltage Options

Press <Enter> to go to its submenu.

► Spread Spectrum

If you enabled this function, it can significantly reduce the EMI (Electromagnetic Interference) generated by the system, so to comply with FCC regulation. But if overclocking is activated, you had better disable it.

► Auto Detect PCI CLK

This option is used to auto detect PCI slot. When enabled, the system will turn off clock of the empty PCI slot to reduce EMI (Electromagnetic Interference).

► BIOS Write Protection

To protect the system BIOS from virus attack, there is a BIOS write-protection mechanism provided. Super BIOS Protect function protects your BIOS from being affected by viruses, e.g. CIH.

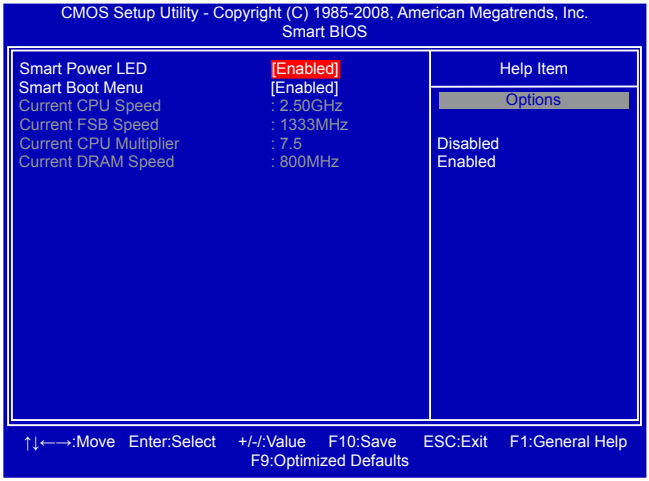
► CPU Frequency Setting

This option is used to adjust CPU Frequency. You can use the <+> or <-> keys to change the value, or you can type the desired value by using the numeric keypad.

► PCI Express Clock

This option is used to adjust the speed of PCI Express slot. It may enhance the graphics card speed. You can use the <+> or <-> keys to change the value, or you can type the desired value by using the numeric keypad.

Smart BIOS



► **Smart Power LED**

Smart Power LED is a feature built on your motherboard to indicate different states during Power-On Self-Test (POST). The LED is located at the front panel, and it displays POST state by different long-short blinking intervals. You can always leave this state enabled.

System Status	Power LED Status	Stop Blinking Condition
Normal	Always On	Always On
No Memory	Continue blinking On (1sec.), Off (1sec.)	Reboot & Memory OK
Post Error Message	Quick blinking twice (1/3sec. On, 1/3sec. Off), one long On (1sec.), continuously.	Enter Setup or Skip

► **Smart Boot Menu**

When PC starts, it will ask you to press [Del] key to enter setup or press [Esc] key to enter smart boot menu. If [Disabled] is selected, then pressing [Esc] has no function. This also prevents user without password trying to get into your computer through smart boot menu.

► **Current CPU Speed**

This item displays the current CPU speed.

► **Current FSB Speed**

This item displays the current Front Side Bus clock.

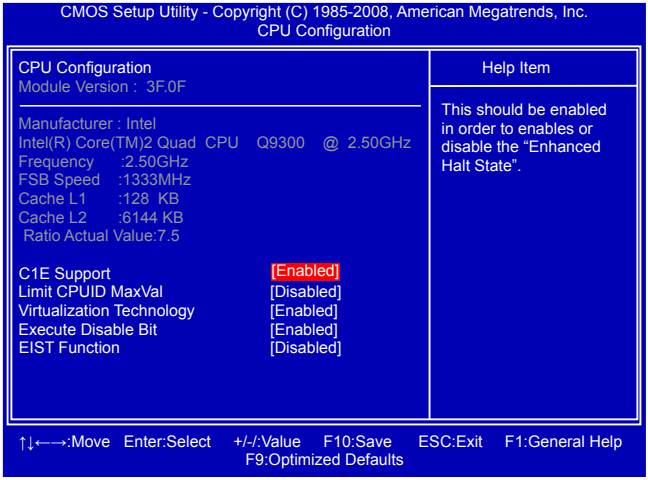
► **Current CPU Multiplier**

This item displays the current CPU Ratio.

► **Current DRAM Speed**

This item displays the current DRAM Speed.

CPU Configuration


CMOS Setup Utility - Copyright (C) 1985-2008, American Megatrends, Inc.
CPU Configuration
CPU Configuration
Module Version : 3F.0F
Manufacturer : Intel
Intel(R) Core(TM)2 Quad CPU Q9300 @ 2.50GHz
Frequency :2.50GHz
FSB Speed :1333MHz
Cache L1 :128 KB
Cache L2 :6144 KB
Ratio Actual Value:7.5
C1E Support [Enabled]
Limit CPUID MaxVal [Disabled]
Virtualization Technology [Enabled]
Execute Disable Bit [Enabled]
EIST Function [Disabled]
Help Item
This should be enabled in order to enables or disable the "Enhanced Halt State".
↑↓←→:Move Enter:Select +/-/:Value F10:Save ESC:Exit F1:General Help
F9:Optimized Defaults

► **C1E Support**

C1E represents Enhanced HALT State. It is a feature which Intel CPU uses to reduce power consumption when in halt state. C1E drops the CPU's multiplier and voltage to lower levels when a HLT (halt) command is issued. This item is used to enable/disable the C1E support.

► **Limit CPUID MaxVal**

This item is used to enable or disable CPUID maximum value limit configuration. Set Limit CPUID MaxVal to 3, it should be [Disabled] for WinXP.

► **Virtualization Technology**

Virtualization (i.e. Intel® Vanderpool Technology) allows a platform to run multiple operating systems and applications in independent partitions or "containers." One physical compute system can function as multiple "virtual" systems. Vanderpool Technology can help improve future virtualization solutions. This item will be displayed only when the CPU is supporting this feature and the setting is used to enable/disable it.

► **Execute Disable Bit**

This item is used to enable/disable the Execute Disable Bit feature.

Intel's Execute Disable Bit functionality can help prevent certain classes of malicious buffer overflow attacks when combined with a supporting operating system.

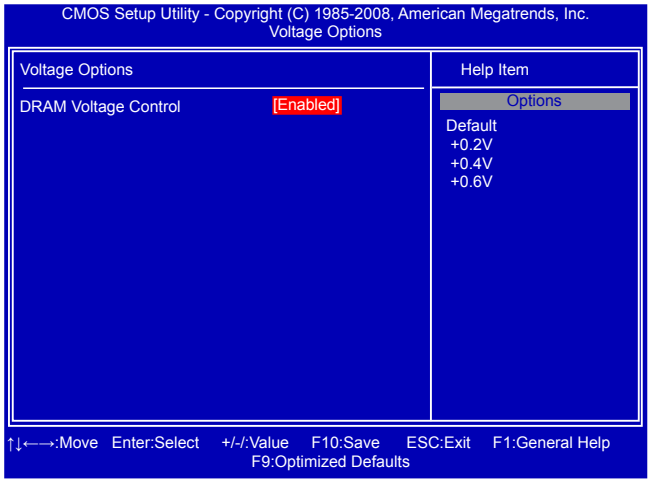
Execute Disable Bit allows the processor to classify areas in memory by where application code can execute and where it cannot. When a malicious worm attempts to insert code in the buffer, the processor disables code execution, preventing damage and worm propagation. Replacing older computers with Execute Disable Bit-enabled systems can halt worm attacks, reducing the need for virus-related repairs. By combining Execute Disable Bit with anti-virus, firewall, spyware removal, e-mail filtering software, and other network security measures, IT managers can free IT resources for other initiatives.

► **EIST Function**

You can enable/disable the EIST (Processor Power Management, PPM) through this item.

Enhanced Intel SpeedStep® technology (EIST) allows the system to dynamically adjust processor voltage and core frequency, which can result in decreased average power consumption and decreased average heat production. There are some system requirements must be met, including CPU, chipset, motherboard, BIOS and operation system. Please refer to Intel website for more information.

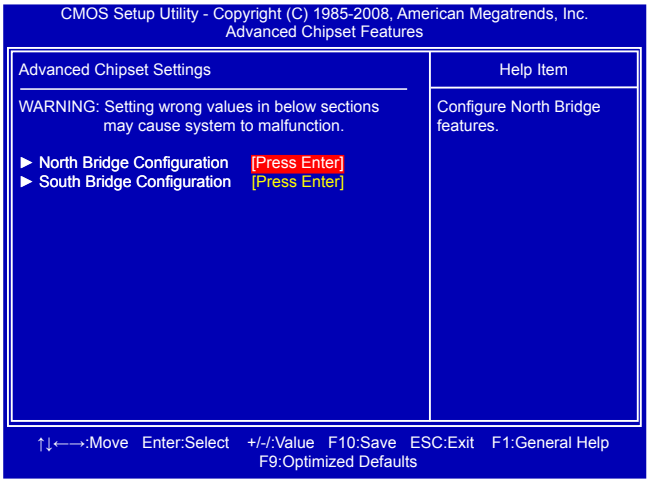
Voltage Options



► **DRAM Voltage Control**

This item is used to change the DRAM voltage in a step of 0.2V,the voltage can be incremented from +0.2V to 0.6V.

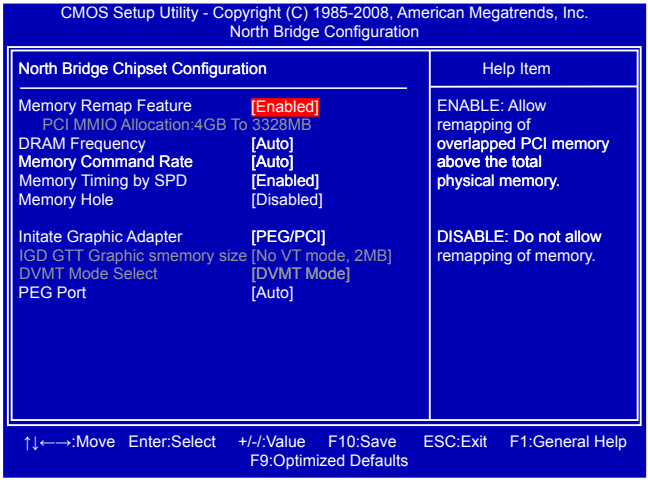
Advanced Chipset Features


CMOS Setup Utility - Copyright (C) 1985-2008, American Megatrends, Inc.
Advanced Chipset Features
Advanced Chipset Settings
Help Item
WARNING: Setting wrong values in below sections may cause system to malfunction.
Configure North Bridge features.
► North Bridge Configuration [Press Enter]
► South Bridge Configuration [Press Enter]
↑↓←→:Move Enter:Select +/-/:Value F10:Save ESC:Exit F1:General Help
F9:Optimized Defaults

► North Bridge Configuration/ South Bridge Configuration

Press <Enter> to go to its submenu.

North Bridge Configuration


CMOS Setup Utility - Copyright (C) 1985-2008, American Megatrends, Inc.
North Bridge Configuration
North Bridge Chipset Configuration
Help Item
Memory Remap Feature [Enabled]
PCI MMIO Allocation:4GB To 3328MB
DRAM Frequency [Auto]
Memory Command Rate [Auto]
Memory Timing by SPD [Enabled]
Memory Hole [Disabled]
Initate Graphic Adapter [PEG/PCI]
IGD GTT Graphic smemory size [No VT mode, 2MB]
DVMT Mode Select [DVMT Mode]
PEG Port [Auto]
ENABLE: Allow remapping of overlapped PCI memory above the total physical memory.
DISABLE: Do not allow remapping of memory.
↑↓←→:Move Enter:Select +/-/:Value F10:Save ESC:Exit F1:General Help
F9:Optimized Defaults

► Memory Remap Feature

This item is used to enable/disable memory remap feature. Its mainly for if you have a 64bit OS and 4GB of RAM. Basically it allows you to remap the overlapped PCI memory above the total physical memory.

► DRAM Frequency

This item is used to adjust the DRAM frequency. Select [Auto] for SPD enable mode. You also can select a value manually such as [800 MHz].

► Memory Command Rate

This feature allows you to select the delay between the assertion of the Chip Select signal till

the time the memory controller srart sending commands to memory bank. The lower the value, the sonner the memory controller can send commands out to the activated memory bank. Options are Auto, 1T and 2T. mode.

► **Memory Timing by SPD**

This item is used to enable/disable provision of DRAM timing by SPD device. The Serial Presence Detect (SPD) device is a small EEPROM chip, mounted on a memory module. It contains important information about the module's speed, size, addressing mode and various other parameters, so that the motherboard memory controller (chipset) can better access the memory device.

► **Memory Hole**

This item is used to determine whether the 15M-16M address field of memory is reserved for the ISA expansion card.

► **Initate Graphic Adapter**

This item is used to choose the initate graphics controller which will be used as the primary boot device.

► **IGD Graphics Mode Select**

This item is used to select the amount of system memory used by internal graphics device.

► **DVMT Mode Select**

Dynamic Video Memory Technology (DVMT) dynamically allocates system memory for use as video memory to ensure the most efficient use of available resources for maximum 2D/3D graphics performance.

The amount of video memory allocated depends upon the amount requested by the operating system. When the memory is no longer required, it is returned to the operating system for use by other applications or system functions. DVMT allocates memory based on system needs. This BIOS option allows you to adjust the amount of memory available for DVMT.

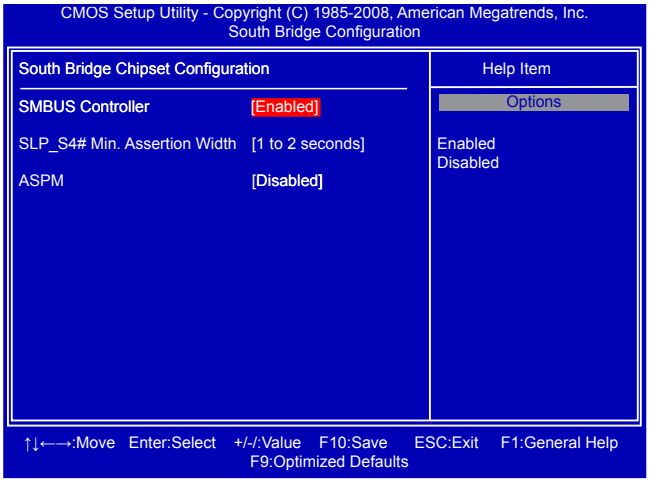
Fixed is a memory allocation method addition to the Unified Memory Architecture (UMA) concept, wherein a static amount of page-locked graphics memory is allocated during driver initialization. This fixed amount of memory will provide the user with a guaranteed graphics memory at all times, and will no longer be available to the OS.

DVMT is an enhancement of the UMA concept, where in the graphics driver allocates memory as needed for running graphics applications. If a user is not performing any graphics-intensive operations, most of the DVMT memory can be utilized by the OS for other uses. We recommend using DVMT setting for better overall system performance.

► **PEG Port**

This item is used to enable/disable PCI Express graphics port.

South Bridge Configuration



► **SMBUS Controller**

The System Management Bus is a specific implementation of an I²C bus. The SMBus specification describes the data protocols, device addresses, and electrical requirements that are superimposed on the I²C bus specification. The SMBus is used to physically transport commands and information between the Smart Battery, SMBus Host, Smart Battery Charger, and other SMBus Devices. This item is used to enable/disable System Management Bus controller.

► **SLP_S4# Min. Assertion Width**

SLP_S4# is a signal for power plane control. This signal shuts off power to all non-critical systems when in the S4 (Suspend to Disk) or S5 (Soft Off) state.

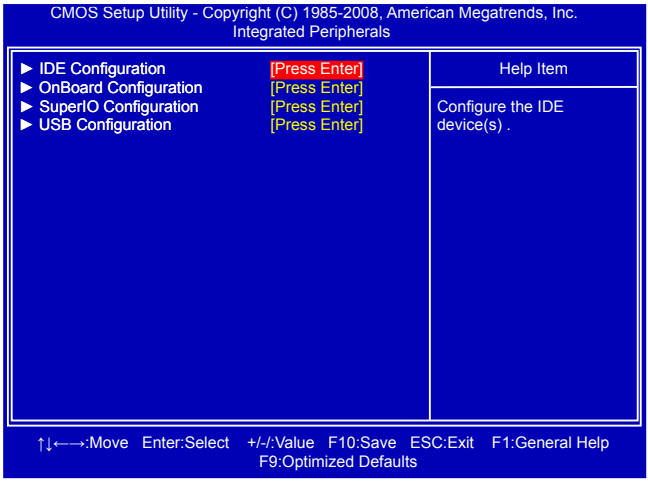
This setting indicates the minimum assertion width of the SLP_S4# signal to ensure that the DRAMs have been safely power-cycled. Setting values are: [4 to 5 seconds], [3 to 4 seconds], [2 to 3 seconds], [1 to 2 seconds].

► **ASPM**

Active State Power Management (ASPM) allows power to be incrementally reduced to individual serial links in a PCI Express fabric as a link becomes less active. ASPM is defined in the PCI Express base specification. Enables or disables ASPM for a Link, based on the overall system power policy, the hardware capabilities of the Link, and the latency of the Link. Hardware performs the actual power management operations of transitioning Links between Link power states and resynchronizing Links. The configuration of the PCI Express implementation on a system affects the amount of power savings that can actually be achieved.

This item is used to enable/disable this feature.

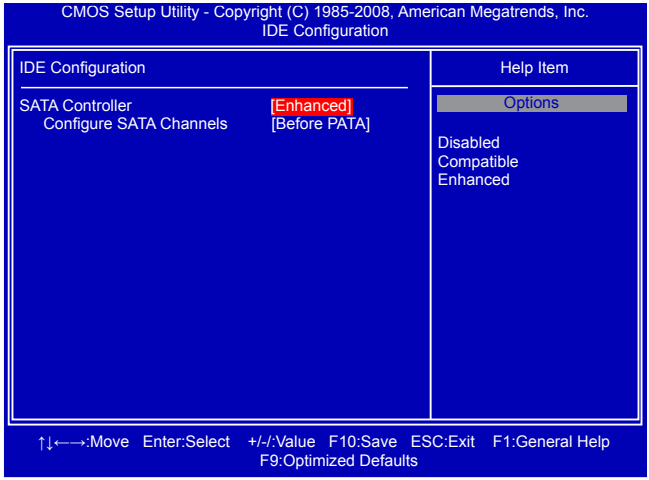
Integrated Peripherals


CMOS Setup Utility - Copyright (C) 1985-2008, American Megatrends, Inc.
Integrated Peripherals
► IDE Configuration [Press Enter]
► OnBoard Configuration [Press Enter]
► SuperIO Configuration [Press Enter]
► USB Configuration [Press Enter]
Help Item
Configure the IDE device(s) .
↑↓←→:Move Enter:Select +/-/:Value F10:Save ESC:Exit F1:General Help
F9:Optimized Defaults

► IDE Configuration/OnBoard Configuration/SuperIO Configuration/USB Configuration

Press <Enter> to go to relative submenu.

IDE Configuration



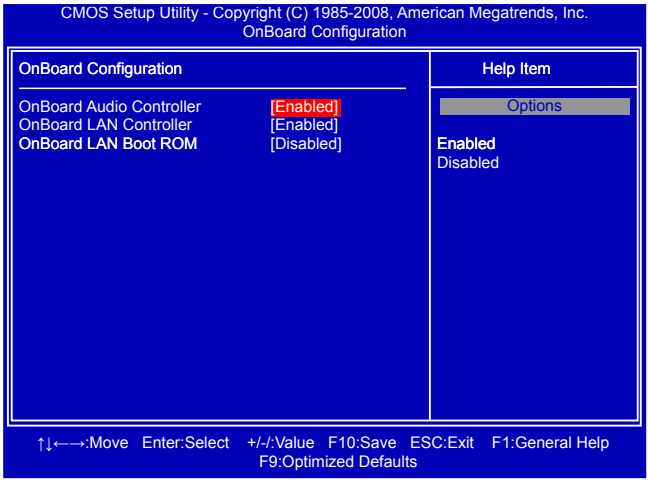
► SATA Controller

This item allows you to select the mode of the SATA ports. Setting values are: [Disabled], [Compatible], [Enhanced].

► Configure SATA Channels

This item allows you to configure the location of SATA ports in "System Information" menu. Setting values are: [Before PATA] and [Behind PATA]. When set to [Before PATA], SATA drives are displayed as Primary IDE Master/Slave and Secondary IDE Master/Slave in "System Information" menu; when set to [Behind PATA], SATA drives are displayed as Secondary IDE Master/Slave and Third IDE Master/Slave in "System Information" menu.

OnBoard Configuration



► **OnBoard Audio Controller**

This item is used to enable or disable the onboard Audio Controller.

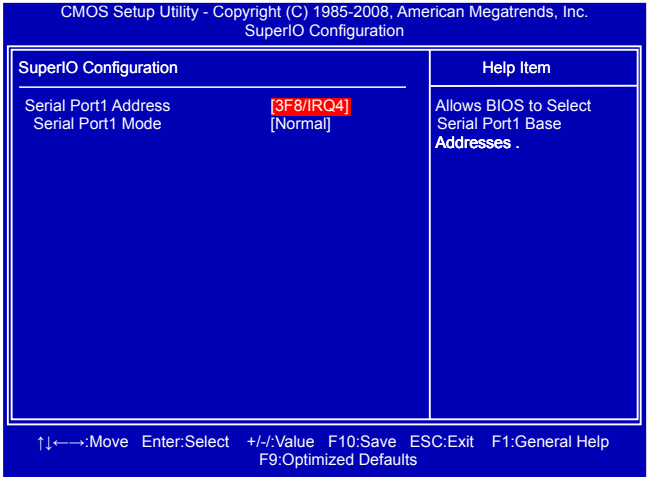
► **OnBoard LAN Controller**

This item is used to enable or disable the onboard LAN controller.

► **OnBoard LAN Boot ROM**

This item is used to enable or disable the onboard LAN boot optional ROM. A LAN boot ROM lets you set up a diskless workstation on the network. By installing a boot ROM in the network board, you can enable a client PC system on the network to be booted remotely.

SuperIO Configuration



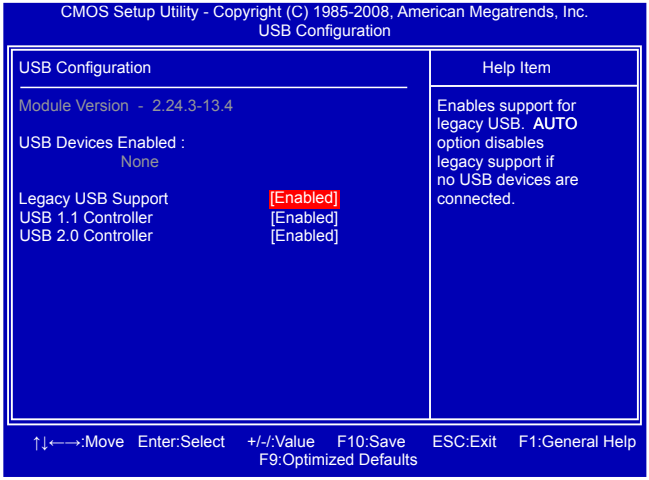
► **Serial Port1 Address**

This item is used to assign the I/O address and interrupt request (IRQ) for the onboard serial port 1.

► **Serial Port1 Mode**

This item enables you to determine the transfer mode of the serial port 1.

USB Configuration


CMOS Setup Utility - Copyright (C) 1985-2008, American Megatrends, Inc.
USB Configuration
USB Configuration
Help Item
Module Version - 2.24.3-13.4
USB Devices Enabled :
None
Legacy USB Support [Enabled]
USB 1.1 Controller [Enabled]
USB 2.0 Controller [Enabled]
Enables support for legacy USB. AUTO option disables legacy support if no USB devices are connected.
↑↓←→:Move Enter:Select +/-/:Value F10:Save ESC:Exit F1:General Help
F9:Optimized Defaults

► **Legacy USB Support**

This item is used to enable the support for USB devices on legacy OS. If you have a USB keyboard or mouse, set to auto or enabled.

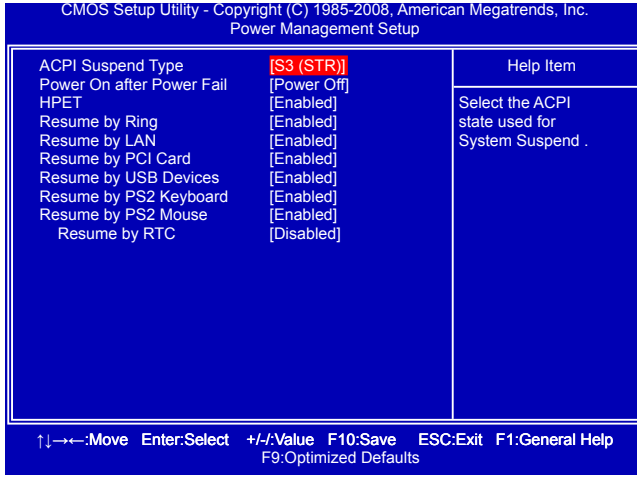
► **USB 1.1 Controller**

This item is used to enable or disable the Universal Host Controller Interface for USB.

► **USB 2.0 Controller**

This item is used to enable or disable the Enhanced Host Controller Interface for USB.

Power Management Setup


CMOS Setup Utility - Copyright (C) 1985-2008, American Megatrends, Inc.
Power Management Setup
ACPI Suspend Type [S3 (STR)]
Power On after Power Fail [Power Off]
HPET [Enabled]
Resume by Ring [Enabled]
Resume by LAN [Enabled]
Resume by PCI Card [Enabled]
Resume by USB Devices [Enabled]
Resume by PS2 Keyboard [Enabled]
Resume by PS2 Mouse [Enabled]
Resume by RTC [Disabled]
Help Item
Select the ACPI state used for System Suspend .
↑↓→←:Move Enter:Select +/-/:Value F10:Save ESC:Exit F1:General Help
F9:Optimized Defaults

ACPI (Advanced Configuration and Power Interface) is an open industry standard interfaces enabling OS-directed configuration, power management, and thermal management of mobile, desktop, and server platforms. It defines five sleeping states, they are :

S1 - The S1 sleeping state is a low wake latency sleeping state. In this state, no system context is lost (CPU or chip set) and hardware maintains all system context. (also called **Power On Suspend**)

S2 - The S2 sleeping state is a low wake latency sleeping state. This state is similar to the S1 sleeping state except that the CPU and system cache context is lost (the OS is responsible for maintaining the caches and CPU context). Control starts from the processor's reset vector after the wake event.

S3 - The S3 sleeping state is a low wake latency sleeping state where all system context is lost except system memory. CPU, cache, and chip set context are lost in this state. Hardware maintains memory context and restores some CPU and L2 configuration context. Control starts from the processor's reset vector after the wake event. (also called **Suspend to RAM**)

S4 - The S4 sleeping state is the lowest power, longest wake latency sleeping state supported by ACPI. In order to reduce power to a minimum, it is assumed that the hardware platform has powered off all devices. Platform context is maintained. (also called **Suspend to Disk**)

S5 - The S5 state is similar to the S4 state except that the OS does not save any context. The system is in the "soft" off state and requires a complete boot when it wakes. Software uses a different state value to distinguish between the S5 state and the S4 state to allow for initial boot operations within the BIOS to distinguish whether or not the boot is going to wake from a saved memory image.

► **ACPI Suspend Type**

This item is used to set the energy saving mode of the ACPI function. When you select “S1 (POS)” mode, the power is always on and computer can be resumed at any time. When you select “S3 (STR)” mode, the power will be down after a period of time. The status of the computer before it entering STR will be saved in memory, and the computer can quickly return to previous state when the STR function wakes.

► **Power On after Power Fail**

This item is used to set which state the PC will take with when it resumes after an AC power loss.

► **HPET**

HPET stands for High Precision Even Timer. If you have the HPET disabled, then windows does not have access to it and therefore falls back to less accurate timing methods. This item is used to enable or disable the HPET Support.

► **Resume by Ring**

This item is used to enable/disable the modem of serial port to generate a wake up from an ACPI sleep state.

► **Resume by LAN**

This item is used to enable/disable the LAN device to generate a wake up.

► **Resume by PCI Card**

This item is used to enable/disable a PCI card to generate a wake up.

► **Resume by USB Devices**

This item is used to enable/disable the USB keyboard or mouse to generate a wake up.

► **Resume by PS2 Keyboard**

This item is used to enable/disable the PS2 keyboard to generate a wake up.

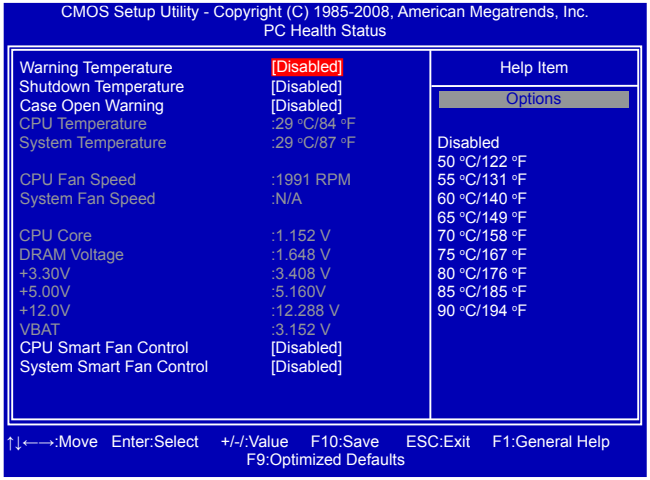
► **Resume by PS2 Mouse**

This item is used to enable/disable the PS2 mouse to generate a wake up.

► **Resume by RTC**

This item is used to enable/disable RTC alarm event to generate a wake up.
RTC is system real time clock.

PC Health Status



► **Warning Temperature**

This option is used to set the warning temperature for the system. When the temperature of CPU is higher than the set value, the motherboard will send out warning information.

► **Shutdown Temperature**

This item is used to set the system temperature upper limit. When the temperature exceeds the set value, the system will shut down automatically.

This function works only when your operating system is supporting ACPI.

► **Case Open Warning**

This item is used to enable or disable case open warning function.

► **CPU/System Temperature**

The CPU/System temperature are automatically detected and displayed by the system.

► **CPU Fan/System Fan Speed**

The CPU fan/System fan speed are automatically detected and displayed by the system.

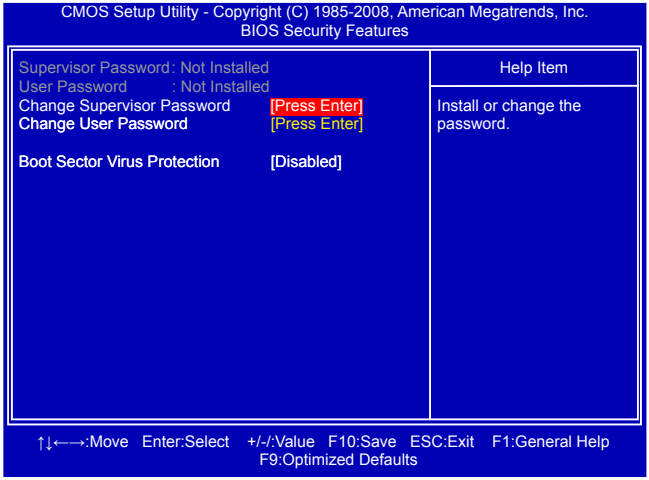
► **CPU Core/ DRAM Voltage/ + 3.30V/+5.00V/+12.0V/VBAT**

The current voltages are automatically detected and displayed by the system.

► **CPU/System Smart Fan Control**

This option is used to enable or disable smart fan function.

BIOS Security Features


CMOS Setup Utility - Copyright (C) 1985-2008, American Megatrends, Inc.
BIOS Security Features
Supervisor Password: Not Installed
User Password : Not Installed
Change Supervisor Password [Press Enter]
Change User Password [Press Enter]
Boot Sector Virus Protection [Disabled]
Help Item
Install or change the password.
↑↓←→:Move Enter:Select +/-/:Value F10:Save ESC:Exit F1:General Help
F9:Optimized Defaults

► **Change Supervisor Password**

This item is used to install or change supervisor password. After you input Supervisor password, it then will ask you to input user password optionally.

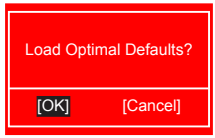
► **Change User Password**

This item is used to install or change user password.

► **Boot Sector Virus Protection**

This item is used to enable/disable boot sector virus protection.

Load Optimal Defaults

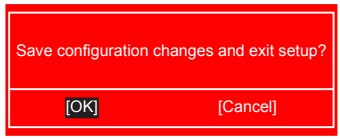


Optimal defaults are the best settings of this motherboard. Always load the Optimal defaults after updating the BIOS or after clearing the CMOS values.

Select this option and press Enter, it will pop out a dialogue box to let you load the defaults. Select <OK> and then press <Enter> to load the defaults. Select <Cancel> and press <Enter>, it will not load.

By this default, BIOS have set the optimal performance parameters of system to improve the performances of system components. But if the optimal performance parameters to be set cannot be supported by your hardware devices (for example, too many expansion cards were installed), the system might fail to work.

Save & Exit Setup



When you select this option and press <Enter>, a message will be displayed in the center of the screen: Select [OK] to save your changes to CMOS and exit the program, select [Cancel] or <ESC> to return to the main menu.

Exit Without Saving

If you select this option and press <Enter>, the following message will be displayed in the center of the screen: Select [OK] to exit CMOS without saving your modifications, select [Cancel] or <ESC> to return to the main menu.